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Article

Effects of trade logistics on international trade: A systematic literature review

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MANAGEMENT | REVIEW ARTICLE

Effects of trade logistics on international trade: A systematic literature review

Yekini Ojenya Salawu^{1*}, Seyed Mohammedreza Ghadiri¹ and Mojeed Olayiwola Giwa¹

Abstract: There have been experiences of a declining interest in trade logistics and international trade research in the practitioners' communities. The body of research on its development appears fragmented owing to several and continuous progressive areas which covered many fields. From the transport and logistics management perspective, this systematic literature review (SLR) aims at ascertaining the focus of researches between 1999 and 2019 on some specific aspects of the current study as well as evaluating the methodologies adopted for such previous studies and how the future studies can benefit from it. The main facts emanating from SLR on trade logistics and economic development with the inclusive of a developing economy made up of 134 peer-reviewed articles discussed. The corpus ensuing from the review has been used to create a citation network study which underpins the recognition of the most investigated topics and their methodological approaches. The structural backbone that contributed to the rise of this investigation process ultimately in the field is pointed out, identified and has thrown up areas of triggering interest for research opportunities. The results provide insights about the research path, current trends and future research directions in the field of trade logistics and international trade development.



Yekini Ojenya Salawu

ABOUT THE AUTHOR

The authors understand that a systematic literature review varies from other types of literature reviews because it employs a much deeper sense of technique in the approach. As a result, we use clear, specific and transparent methods at Malaysia University of Science and Technology, ensuring adherence to a standard set of research stages, adoption of the requirement that the review is responsible, replicable and up-to-dateable, and essential to the implementation to ensure reports are useful and relevant. Hence, the study creates a solid platform for knowledge advancement by facilitating theory formulation, closing gaps in research and identifying places where more research is needed. This systematic literature review has created a knowledge base for future research agendas, and consequently, it will aid in the direction of future research by assisting with the research gaps analysis and providing researchers with a powerful base to guide original research to fill the gaps and support hypotheses.

PUBLIC INTEREST STATEMENT

The systematic literature review of the effect of trade logistics on international was carried out in an explicit and repeatable approach by recognizing, analyzing and synthesizing the existing body of finished and documented work created by researchers, scholars and practitioners. This protocol or strategy was meticulously followed, with the measures clearly stated and organized in such a way that descriptive analysis of the journals, classification of the papers, examination of the significance of the topics throughout time, primary research methodologies used and conclusions drawn. The study examines the types of data that were searched, analyzed and reported between 1999 and 2019. This is being done in order to gain a broad understanding of how trade logistics affects international trade and to demonstrate what work has indeed been done in the field as well as the research methodologies and theories that have been employed. The review has assisted in identifying research gaps and directing the investigation for future agenda.

Subjects: Economics; Research Methods in Management; International Business; Transport Industries;

Keywords: international trade; trade logistics; systematic literature review; supply chain management; transport

1. Introduction

The increasing recognition of trade logistics as one of the key performance indices on the growth of global or foreign trade and economic progression, the recent drive towards economic diversification and the need to reduce barriers to international trade and creating world integrated economy (Hill, 2008 & World Trade Organisation Report, 2015) have opened a plethora of exploration in all aspect of transport management and coordination of logistics and supply chain focusing on trade logistics, international trade and economic. This is because for the objective to be achieved, several factors such as poor logistics performance index, high cost of port-hinterland transportation, high cost of transaction using seaports, poor competitiveness of ports, particularly pertaining to developing countries must be addressed UNCTAD (2012), InBev et al. (2013), Eravwoke and Oyovwi (2012), United Nations Conference on Trade and Development [UNCTAD] 2015a), and World Bank (2018), and Arvis et al. (2010), and Arvis et al. (2016, 2018) and Crown Agents, 2019 as cited in Jatto (2020). This is they have acknowledged as hindrance to economic development and international trade of developing economies or nations.

Consequently, this paper focuses on review of literature in all the aspect of trade logistics and economic advancement through trade with the view of showing the path, methodological approaches and dimension that future research works can follow. The individual objectives of the research are how to leverage on the optimality of logistical elements to increase international trade and reduce if not totally eliminate the aforementioned challenges through new dimension in the future researches.

The narrative on trade logistics and international trade development is relatively fragmented, therefore a comprehensive configuration of the topic has got to be addressed. The early review made at the beginning of this paper exposed the deficient in the comprehensive literature review that merges the understanding on trade logistics and international trade. In contrast, considering substantial number of papers that has contributed in so many different fields which refer to precise issues, including poor trade logistics performance, mono product as well as poor competitiveness of many countries' ports and road on trade logistics and international trade from transport, logistics administration and supply chain management perspectives etc. According to Salawu and Ghadiri (2021), in order to have a better knowledge of the degree of how logistics of trade affects the international commerce, the reaction of logistics growth in international trade need further in-depth research after the authors has synthesize the relevant papers on the subject. Therefore, a need for a thorough extensive investigation of literature and thus the evolution of the review was felt. This reveals potential avenues and prospective instructions for the future research development in the discipline. In this paper, sourcing data from 134 published papers in the peer-reviewed Journals from web of science and the help of google scholar for the period between 1999 and 2019, an outline of the core topics and their progression for a period in addition to a review of the focal methodological approach used are provided by this paper. In the course of a quotation network review, influential ground breaking contributions that gave rise to the development of the discipline are eventually recognized and addressed.

Systematic literature regarding trade logistics' strategy and international trade enables the researchers towards identifying different focuses with the subjects of investigation. Various groups of publications are usually not impossible to focus on particular topics or certain areas of interest, while some are not more focused and less integrated but instead discuss several topics on just a paper. As applicable thus: World Bank (2018) focuses on trade logistics and supply chain, Crown

Agents (2019) as cited in Jatto (2020) emphasizes the assessments of the Ports Tariffs cost for Nigeria (a developing economy), Frankel and Romer (1999), Fajana (1979), Eravwoke and Oyovwi (2012), and (United Nations Conference on Trade and Development [UNCTAD] 2015a) studied international trade and economic development, while studies like InBev et al. (2013), UNCTAD (2012), Arvis et al. (2010), and Arvis et al. (2016) & (2018) among others has recognized the role of physical infrastructure of transport and logistics element as a driver of economic integration and international trade competitiveness improvements.

The reminder and the overall objectives of this systemic literature review are organized as follows:

- Descriptive analysis of the Journals
- Classification of the Papers
- Review of significance of the Topics Over a Period
- Main Research Methodologies Employed and
- Conclusion

2. Methodology

A systematic literature review is an objective examination of an existing body of literature that employs a clear as well as reproducible approach for searching, analyzing and synthesizing it. According to Tranfield et al. (2003), an SLR is a type of research that interacts with existing publications and employs a systematic process for synthesizing previously published material. Systematic reviews are not novel in and of themselves, but they have evolved considerable over the years. At the 19th century, practically every review article was referred to be a systematic review. The subject was lifted to a new baseline with the rise of meta-analysis as more of a developed (quantitative) review tool. According to Petticrew and Roberts (2008), policymakers recognized the promise of systematic reviews for evidence based making decisions. According to Ohlsson (1994), this evidence based method was adapted from the field of medicine, which suffered from a significant increase in the body of literature, so that previous studies, for example, on one treatment, had to be aligned to deduce evidence, and has typically resulted in increased in the significance of systematic reviews.

The method selected for this paper is aimed at recognizing the modes and identifying the gaps that exist in the study area. Systematic Literature Review was a technique and methodology that was employed to combine emerging subjects in other areas, like the extensions to the suppliers of the sustainability codes Gimenez and Tachizawa (2012), the logistics role in achieving agility Gligor and Holcomb (2012) and application of servitization in the manufacturing Lightfoot et al. (2013), as well as research in Urban Logistics Lagorio et al. (2016). SLR has provided a protocol of research that is replicable Denyer and Tranfield (2009); accordingly, the conducted study has shown a comprehensive documentation steps within that enables the in-depth exhaustive assessment Kupiainen et al. (2015) which overcomes the narrative or review despite the perceived weaknesses Tranfield et al. (2003). This systematic review was carried out in compliance with the criteria for preferred reporting items for systematic reviews and meta-synthesis (Moher & Tsertsvadze, 2006). Furthermore, the rules of Campbell and Cochrane Economics Methods Group for search criteria, data extraction, synthesis and critical analysis were adopted.

A thorough search was conducted to discover relevant publications published in databases between 1999 to 2019. Web of Science was the database used. Backward and forward snowball searches were used to find additional articles on Google Scholar from the reference lists of the included articles and research.

Three-step protocol (inclusion/exclusion criteria, selection due to the full text and selection based on title and snowballing) has been developed towards recognizing a reasonable process

Table 1. Criteria for inclusion of the paper selection

Criteria for Inclusion	Narrative
Keywords	Trade logistics, Logistics Performance Index (LPI), Supply Chain Management
Language	English
Types of document	Articles
Types of source	Peer-reviewed journals and proceedings
Period (Time interval)	1999–2019

for performing an automated investigation in order that the SLR can be replicated Lagorio et al. (2016); Kitchenham and Charters (2007). The inclusion/exclusion criteria involve defining inclusion/keywords criteria in area of trade logistics, and international trade were made to search for published papers in refereed Journals in the field of the logistics, transportation, Management, supply chain, shipping and Economics development for the period of 1999 to 2019. The starting year of 1999 was chosen for the reason that, even though trade logistics and international trade have appeared in 1980s, though the major thrust in the scientific literature began towards the late 90s. Excluded from the corpus are works that are ongoing and the reports on technical. Consequently, to achieve consistency between themes and sources the paper was restricted to peer-reviewed publications Lagorio et al. (2016). More so, the researcher used selection of the article by manual to ascertain their being logical and consistent with the inclusion and exclusion criteria for the analysis based on the selection from foremost publishers' databases and records services. Thereby, the description on the criterion of the final selection is presented in Table 1.

Hence, the reviews of the titles, international trade for economic management and abstracts of the selected papers were the basis for the initial selection. If the paper was out of the research scope and did not focus strictly on the specific aspect of trade logistics and international trade, then they were removed from the corpus. The second round of selection was after reading the full texts and the list of selected papers are refined. Those for exclusion were the papers or articles that lied outside the scope of trade logistics and supply chain management. Therefore, those identified as the most cited papers for the references of the entire selected papers and backwards snowballing.

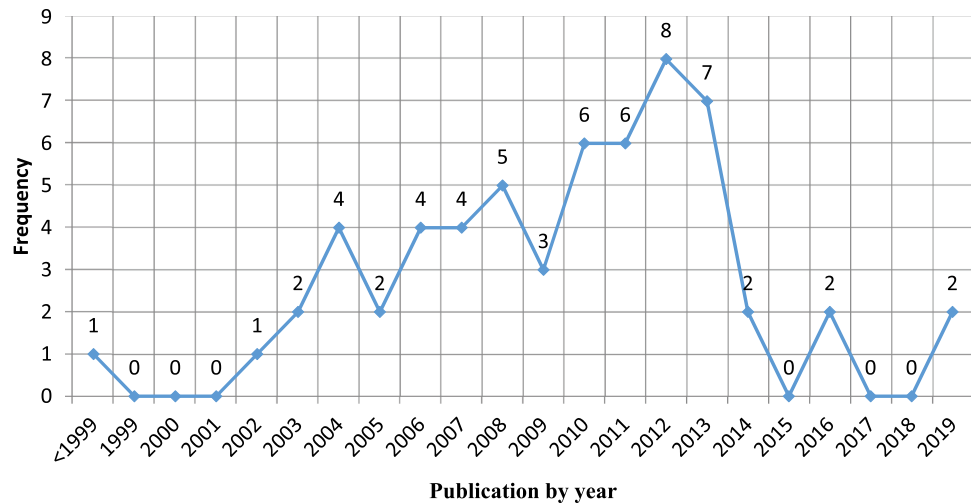
2.1. Descriptive analysis

Despite some fluctuations in the considered period, it is possible to initially discern the contribution to knowledge in the field of trade logistics, international trade, economic and management. And as such, the distributions by year of the papers in the corpus are presented in the Figure 1. Two major peaks: 2012 and 2013 can be noted which account for special volume of 8 and 7 papers respectively. It is noted that in recent years (2014 to 2019) the contributions regarding trade logistics to international trade have witnessed some progressive decline compare to much older years. This observation calls for a re-engineering of research focus in that very important sector of national development.

2.2. Classification of the papers

In this systematic literature review, fifty-nine (59) studies most relevant to the trade logistics and international trade were finally reviewed to examine their methodologies, adopted, analytical methods used, discussion made and conclusion reached. The initial general sources gave as much as one hundred and thirty-four (134) which were screened to one hundred (100) though with economic and management still included which were finally excluded. The first eighty papers from the initial sources were chosen randomly to investigate their perspectives about the key point of interest on the aspects of the study in general. Thereafter, fifty-nine (59) papers which is the list

Figure 1. Distribution of the papers by years.



of the concluding topics was explained and practiced in line with the perspectives as shown in the Table 2. The report presented in the Figure 2 which is the results of the topics identification; it is observed that some papers appeared in at least either of the topics. The studies on the supply chains involving waterways recording 27 papers which described on how international trade is supported appears to be the most studies subject, followed by maritime hinterland short shipping with 9, and logistics support service and hinterland development as feeder to ports with 8 and 7, respectively. Maritime trade and the economy, describing the impact of maritime trade to the economy, have the least recorded papers of just 3. Logistics Performance Index, describing the logistics efficiency measurement in international trade, has 5 papers recorded against it.

2.3. The review of significance of the topics over a period

The effort of researchers towards these subtopics has changed over the years. Therefore, five years' intervals were used to create four classes from 1999 to 2019 as presented in Table 3. From the inception to the end of the considered time the attentions of the researcher have been oscillating in the various subtopics. For example, in the first phase (1999–2003), subtopics like diversification approaches, economic growth and international trade, international trade and economic development were given a considerable attention by the researchers. This was to ascertain whether there were considerations of trade and logistic which are not substantial and

Figure 2. Number of journals per sub-topics.

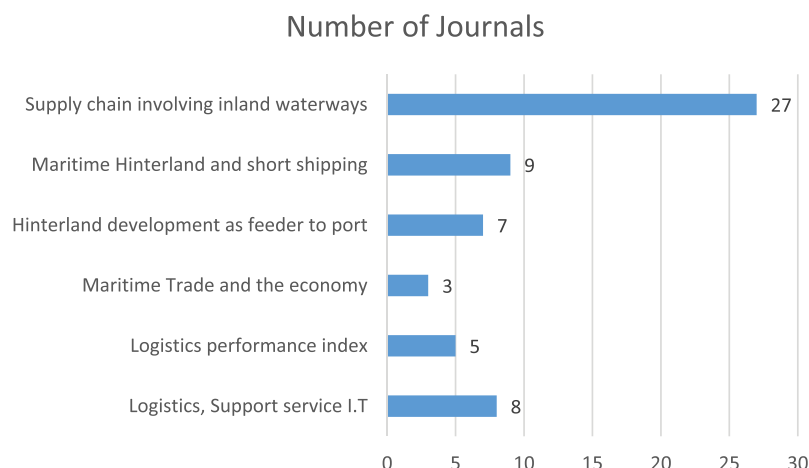
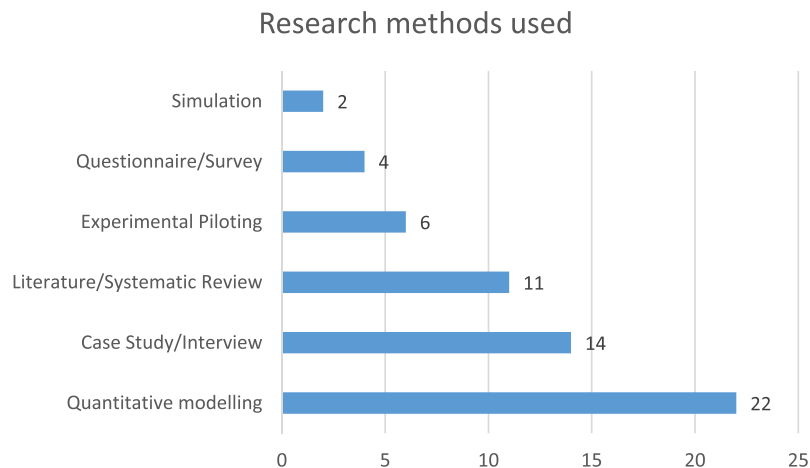


Table 2. Topic discussed in papers reviewed

Subtopics	Description	Papers
Logistics, support services and international trade	The role of logistics in international trade performance in countries	Arvis et al. (2007); Brooks and Frost (2004), Martí et al. (2014);(Korinek and Sourdin (2011); Saslavsky and Shepherd (2012); Arvis et al. (2010); Nordås et al. (2006) and Martí et al. (2014)
Logistics performance index	The measurement of logistics efficiency in international trade	Arvis et al. (2007); Arvis et al. (2010); Arvis et al. ((2012)), Arvis et al. (2016); Blonigen and Wilson (2006)
Maritime trade and the economy	The impact of maritime trade to the economy	Akinwale and Aremo (2010); Ndiokom (2006) and Clark et al. (2004)
Hinterland development as feeder to ports	The importance of developing the hinterland	Acciaro and Mckinnon (2013); Lättilä et al. (2013); Bergqvist (2012); Bergqvist (2016); Giuliano and O'Brien (2007); Giuliano and O'Brien (2008); Monios and Lambert (2013)
Maritime Hinterland short shipping	The lack of integration in transport is considered to be one of the weaknesses short sea shipping	Gouvernal et al. (2010); Brooks and Frost (2004); Medda and Trujillo (2010); Perakis and Denisis (2008); Takele and Arnt (2019); Paixão Casaca (2012); Insight (2006); Douet and Cappuccilli (2011) and National Ports and Waterways Institute (2004)
Supply chains involving waterways	Shipping goods by water carriers like inland waterway, lake, coaster and inter-coaster ocean, and global deep sea carriers, though they are considered inexpensive	Elhedhli and Goffin (2005); Fahimnia et al. (2013); Robinson (2002); Groothedde et al. (2005); Bierwirth et al. (2012); Meisel et al. (2013); Bookbinder and Fox (1998); Ishfaq and Sox (2011); Caris et al. (2013); Macharis and Pekin (2009); Barth and Boriboonsomsin (2008); (Verma et al. (2012); Srivastava (2007); Dekker et al. (2012); Sasikumar and Kannan (2009); Barami and Dyer (2009); Meyer-Rühle (2011); Banister (2008); Beuthe et al. (2003); Witlox (2003); Grosso (2011); Meixell and Norbis (2008); Hoen et al. (2012); Mallidis et al. (2010); Geerlings and Van Duin (2011); Takele and Arnt (2019) and Pan et al. (2013)

Figure 3. Types of research method used in the collections of the papers.



were further excluded. There is a slight shift of research focus in the second phase (2004 to 2008) as topics like supply chains involving waterways, maritime hinterland and short shipping and economic growth received some measure of attention than others. In the third phase (2009–

Table 3. Topic reliance overtime

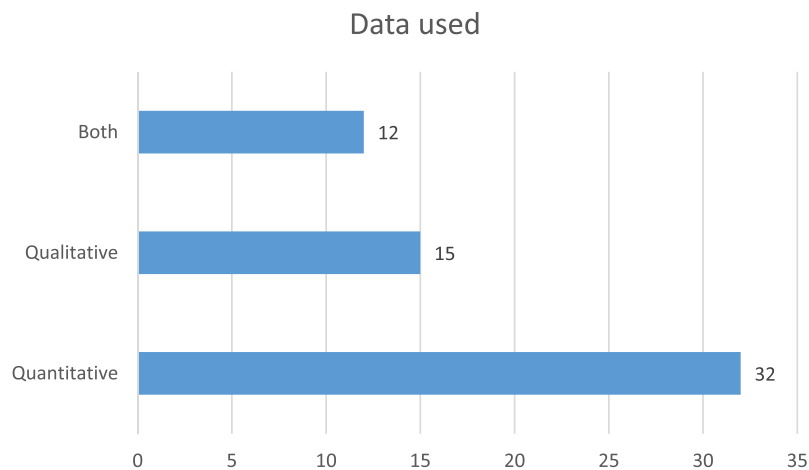
Subtopics	<1999	1999 to 2003	2004 to 2008	2009 to 2013	2014 to 2019
Logistics, support services and I.T	0	0	3	4	1
Logistics performance index	0	0	2	2	1
Maritime trade and the economy	0	0	2	1	0
Hinterland development	0	0	2	5	0
Maritime hinterland and short shipping	0	0	4	4	1
Supply chain involving waterways	1	3	6	16	1

2013), there seems to be a uniform attention to all the subtopics as most of the subtopics were researched except for international trade and economic development which has no record of research paper for that period of time. Furthermore, the final phase (2014 to 2019) shows an appreciable decline in the subtopics, however subtopics like economic growth and international trade, international trade and economic development and diversification approaches which were the main thrust of the first phase researches have given way completely to Logistics, support services and information technology, logistics performance index and maritime hinterland and short shipping. The declining nature of empirical studies into all aspects of this study has created a research gap that this study has identified as trade development which is one of the aspects that any country is looking to in the diversification efforts for the trade administration.

2.4. Main research methodologies employed

In classifying the research methodologies, the inductive approach analysis on 59 papers that are consider very closely related and within the scope of 1999 to 2019, requiring the authors to independently classify the methodologies employed in the paper primarily on the basis of their own experience. A table of classification was developed by checking through the papers to observe each of their methodologies. The report in [Figure 3](#) shows the result of the classification. Therefore,

Figure 4. Types of data used.



the nature of the employed methodologies determines the data to be collected and used in the study. Hence, the two methods of data collected in the paper were classified between qualitative and quantitative data (Figure 4). However, qualitative data are more of opinions of people which cannot be measured directly while quantitative data are usually quantified and proven which are amenable to statistical manipulation.

3. Conclusion

The paper was purposeful to provide a structured literature review in a systematic approach of the compositions that discusses the global trade logistics' strategy and international trade development. Based on the observed literatures and given its fragmentation in addressing the aspects of the research in which has not been undertaken to date, there seems imperative to venture into the exercise. On the contrary, in the last phase (2014–2019) of the study with focus as contained in Table 3, the topic of trade logistics and international trade development has though received less consideration as observed by the volume on the reviewed papers. Consequently, the suggestions on the subject of the best directions for the future research are the most important aim of this work with the most excellent understanding of the origins of the literature. However, it can be an error in any sense to believe to be exhaustive when examining a topic as trade logistics and/or international trade development that covers many diverse research areas in the coordination of economics, transport, logistics, supply chain management and shipping. In studying these topics though, several methodologies have been applied and with respect to the newer issues where there are rooms for more methodological investigation. More so, taking into account the examination of the corpus and citation network allowed the authors to examine how attention has not been attached to trade logistics and international trade in the late 90s till when logistics performance index and maritime hinterland and short shipping between 2014 and 2019 started having some considerations. Accordingly, this effort could help to open a spectrum of research areas that will continue to consolidate on the existing body of literature on trade logistics with international trade development. Although, many articles are published by writers from various backgrounds who use somewhat variety of terms for almost the same study item or the same terms for various objects. As a consequence, within a specific research topic, researchers from various backgrounds see constructions, theories and so on through their own perspective, resulting in a dispersed field. This SLR assist in overcoming this problem by synthesizing the field and developing a shared terminology. Based on this framework, this SLR has raise awareness in the subject and demonstrate contemporary insights, including among people from diverse fields and experiences. Therefore, this reviews uncovered quite enough applicable knowledge on a trade logistics as its affect the development of the international trade with the usage of specified procedures on which determine what can be asserted with confidence based on such articles while applying transparent and systematic methods which provide diverse and consistent outcomes. This also will be able to assist the practitioners to improve in appreciating trade logistics strategy and international trade development and its value to researchers in order to redirect their efforts in a way that is not inconsistent to the past development for future perspectives.

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